

Responsible Innovation: Whither Workers?

ACTU response to the AHRC Artificial Intelligence: Governance and Leadership white paper.

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Introduction

The Australian Council of Trade Unions is the peak body for Australian workers and is deeply committed to ensuring that the changes that are occurring and will occur due to the advent of artificial intelligence (AI) and automation are not to the detriment of workers. We are pleased to have the opportunity to provide input to the Australian Human Rights Commission's white paper on this topic.

While it is gratifying to find that the AHRC is considering the impact of AI and automation on society, we believe that the white paper, as presented, is fundamentally flawed. This is not due to any of the current content of the paper which presents a number of concerns and proposes cogent solutions to those concerns. Instead it is the paper's omissions with which we must take issue. On only one occasion does the white paper mention workers and the paper makes no mention of the significant negative impact that improperly regulated innovation in this area may have on workers. It is our concern that any attempt to regulate development in this area that ignores the impact that automation and AI will have on working people would be totally inadequate.

The impact of automation and AI on working people

In its sole mention of working people, the white paper identifies that workers will be required to be retrained and redeployed to new sectors and industries due to the disruption brought about by the advent of automation and AI. What is missing from this is an acknowledgment that these transitions are, more often than not, economic disasters for working people and their families. These transitions need to be planned for and funded adequately. Unfortunately, Australia has a long history of poorly-managed industry transitions.

Perhaps the most troubling aspect of the white paper is that it sees working people, their skills, hopes and aspirations, as bystanders in this process. All of the positive elements which may arise from a cooperative working environment, where the voices of workers and their unions are a critical part of the process of the introduction of AI, are absent. This flies in the face of the experience of the introduction of cyberphysical systems, AI, Machine Learning and the like, as experienced in Western Europe, where a cooperative environment has led to an increase in productivity via a cooperative consultative process where workers concerns, as articulated by unions, have been incorporated into responses by government, business and society.

Previous experience in Australia with large structural adjustments has found that, on average, only one-third of displaced workers are ever able to gain secure employment¹. Of the remaining two-thirds, one-third is forced into precarious and insecure work while the remaining third simply never work again. Hidden within the bloodless sentence of the white paper about needing to retrain and redeploy workers is a significant proportion of a generation of workers either thrown into life-long unemployment or resigned to a future of insecure work. Workers will be among the people most affected by the advent of these technologies – indeed they are already feeling the effects.

The OECD has found that globalisation and technology have already had a mutually-reinforcing effect of hollowing out the labour market, showing a decline in middle-skill/middle pay jobs in advanced countries throughout the OECD and a rise in low-skill/low pay and high-skill/ high pay jobs.² Those jobs with a higher cognitive quotient seem to be at least risk from AI³Relatively speaking, highly-skilled workers have tended to benefit more from technological change, whilst the share of employment in middle-skilled jobs has decreased. Low and medium-skilled workers are most at risk of technological displacement and job polarisation. There is a real risk of an exacerbation of the trend towards lower job quality in the middle and bottom of the labour market.

One reason that, without intervention, technological change is likely to exacerbate income inequality is the opportunities it provides for circumnavigating labour standards. Another is because technology and automation tend to substitute for routine tasks (especially those of higher value) but complement non-routine cognitive tasks.⁴ This tends to support job polarisation as routine tasks exist in jobs requiring low and middle levels of education, but routine tasks are even more prevalent in the middle educated (and middle earning) group of workers. Non-routine, non-manual work tends to be unaffected by growth in information and communications technology (ICT), whereas those industries that experience the fastest growth in ICT tend to have the fastest falls in demand for workers with intermediate education levels.⁵ In addition, in an environment where worker's power is low, the benefits from technology-driven productivity improvements are likely to continue to go disproportionately to capital owners rather than workers, thereby exacerbating both income and wealth inequality.

¹ ACTU, *Sharing the Challenges and Opportunities of a Clean Energy Economy*, ACTU 2017.

² OECD, *OECD Employment Outlook 2017*, June 2017, p87.

³ Nedelkoska and Quintini, *Automation, Skill Use and Training*, OECD 2018

⁴ See David, Frank Levy, and Richard Murnane, "The Skill Content of Recent Technological Change: An Empirical Exploration," *Quarterly Journal of Economics*, 118 (2003), 1279–1333

⁵ See Michaels, G., Natraj, A., Reenen, J. V., 2009. Has ICT polarized skill demand? Evidence from eleven countries over 25 years, *Review of Economics and Statistics* 96 (1), 60–77.

Much concern about mass unemployment and job displacement as a result of computerisation and automation can be traced to the impact of Frey and Osborne's 2013 study that estimated 47 per cent of total employment in the United States was at high risk of automation within a decade or two.⁶ In particular, the study predicted transport and logistics occupations, the bulk of office and administrative support workers and labour in production occupations as well as a substantial share of service occupations were susceptible to computerisation, particularly in low skill and low wage jobs.⁷ Frey and Osborne cite social intelligence tasks (for example, care, negotiation and persuasion) and creative intelligence tasks (for example, musical composition, artistic design and cooking) as well as perception and manipulation tasks in unstructured environments as resistant to at least the current generation of automation technology.

Further studies, using a similar methodological model to that developed by Frey and Osborne were made of the United Kingdom, Europe and Australia. The Australian study, by Hugh-Whyte et al. and published by CEDA in 2015, predicted as much as 40 per cent of Australian jobs could be replaced by computers within ten to fifteen years, a quantum less than in the United States but comparable to that in the United Kingdom.⁸ The study concluded that occupations most likely to be affected include labourers, machinery operators, drivers and clerical workers, whilst personal service workers and professionals are least likely to be affected, although some particular jobs in these groupings are still at high risk of automation. Overall, they contend professional, technical and creative jobs are least susceptible to automation.⁹ The researchers' preliminary analysis suggests jobs in outer urban areas have a higher probability of computerisation than inner urban areas and regional areas are more susceptible still, particularly regional areas with high dependence on mining such as in Western Australia and Queensland.¹⁰

While there will undoubtedly be new jobs created as part of these changes and it is not yet known to what degree the utilisation of artificial intelligence, automation, big data and other new technologies will lead to an acute transitional period of increased disruptive change, it seems inevitable that, without appropriate planning, the 'Digital Revolution' has the potential to

⁶ Frey, C and Osborne, M, *The Future of Employment: How Susceptible are Jobs to Computerisation?* (Oxford Martin School, University of Oxford, Working Paper (2013) p48.

⁷ Ibid.

⁸ Durrant-Whyte, McCalman, O'Callaghan, Reid and Steinberg, 'The impact of computerization and automation on future employment' in Committee for Economic Development of Australia (CEDA) June 2015, *Australia's Future Workforce*, (2015) viewed February 2017 <

http://www.ceda.com.au/CEDA/media/ResearchCatalogueDocuments/Research%20and%20Policy/PDF/26792-Futureworkforce_June2015.pdf>, p58.

⁹ Ibid p63.

¹⁰ Ibid p60-62.

exacerbate the current dual crisis of inequality and insecure work in Australia in the short, medium and possibly long-term.

New advances in digital technologies such as automation, machine learning, big data collection and analysis and pervasive computerisation, as well as the emergence of new business practices made possible by these technologies, have the potential to significantly transform the world of work. The possible impact of this is the radical transformation or elimination of a significant proportion of existing vocations, a decline in job quality, and the further loss of the security and rights of traditional employment through the rise of non-standard work arrangements.

Unmanaged, the Digital Revolution is likely to exacerbate Australia's current insecure work crisis and existing inequalities, with the most impact on middle to low paid jobs that are not professional, technical or creative, and to especially impact women in intermediary roles and workers living outside inner urban areas. The changes are also being used to justify pro-business policies and to expand managerial prerogative.

These forces have already made some contribution to Australia's current position as a "world leader" in insecure and precarious work. This is not a field in which Australia should be proud to lead. Any agency designed to consider and constrain the unintended consequences of automation and AI must have the protection of working people as one of its primary aims. This can only be achieved by involving working people, through their representatives, in the day to day business and decision-making processes of that body.

In summary

As stated above, the white paper has succeeded in identifying a number of significant risks that may arise through the unmanaged development and deployment of AI and automation technology. The ACTU also believes that a responsible innovation agency or an agenda for responsible innovation, delivered through some existing body, represents a good solution to the issues raised. However, the paper has failed to recognise the significant disruption that these technologies may introduce into the lives of millions of Australian workers.

If managed properly, new technologies and new ways of organising work have great potential to reduce rather than exacerbate inequality. They can increase rather than degrade job quality and improve the material and working conditions of workers. But for this to occur, the impact on workers must be considered and addressed. That the current white paper does not do this, we believe, renders it and its conclusions fundamentally flawed.

The conclusion at which the white paper arrives is a valid one - Australia needs an organisation to oversee the impact that AI and automation will have on our society. But that organisation needs to be representative of workers and include the ACTU and relevant trade unions. It also needs to have the capability to undertake transition planning for affected workers and to quantify not

merely the economic opportunity inherent in these changes but also their costs. It also needs to consider how measures to address these impacts can be funded by exploring concepts such as levies on those who are benefitting most from increased capital productivity.¹¹ Only a body that is truly considering the full suite of impacts that the digital revolution may have can succeed – and it is the only body that should be considered.

¹¹ As occurred with wharf restructuring and has been suggested as part of the response to the advent of driverless vehicles for road freight.

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12/2019



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